

# **Permitting Shore Protection Structures**

# Section 3.1-Construction Seaward of the Building Line

- 3.1.1 No person shall commence the construction of any structure, or portion thereof, seaward of the Building Line on any parcel of real property, except where one or more of the following conditions exist:
  - 3.1.1.4 The Division has made a written determination that the proposed structure, or a portion thereof, must be located seaward of the Building Line on a parcel of land in order that the intended purpose of the structure, or a portion thereof, will be achieved. The provisions of this Section and subsection may apply to the following types of structures: pipelines, docks, piers, wharves, boat ramps, and other harbor structures, **as well as other types of structures that have the purpose of protecting the beach or shore, preventing beach erosion, and carrying out the purposes of the Act and the Regulations.**

## **Section 4.3 Construction of Beach Erosion Control or Shore Protection Structures or Facilities Seaward of the Building Line**

- 4.3.1 No person shall commence or conduct, without a permit therefor from the Division, construction of any structure or facility on any beach seaward of the Building Line, the primary function of which is beach erosion control or shore protection including, but not limited to, groins, jetties, seawalls, revetments, dikes, bulkheads, and beach nourishment; except that ordinary dune maintenance, as determined by the Division, including the proper installation of sand fence and the planting and fertilization of stabilizing vegetation, shall not require a permit.

# Shore Protection Structures

- **“Bulkhead”** means an upright structure or partition built parallel or nearly parallel to the shoreline, primarily to retain or prevent land from sliding and secondarily, to protect upland from beach erosion and damage from wave action. A bulkhead is generally of lighter construction than a seawall.

- **“Dike”** means a wall or mound built around a low lying area to prevent flooding.
- **“Groin”** means a shore protection structure built (usually perpendicular to the shoreline) to trap littoral drift or retard erosion of the shore.
- **“Jetty”** means a structure extending into a body of water, and designed to prevent shoaling of a channel by littoral materials, and to direct and confine the stream or tidal flow.

- **“Revetment”** means a facing of stone, concrete, or similar material built to protect a shore, or shore structure against erosion by wave action or currents.
- **“Seawall”** means an upright structure separating land and water areas, primarily designed to prevent erosion and other damage to upland areas due to wave action. A seawall is generally of heavier or more massive construction than a bulkhead.



**Bulkhead**





**Groin Field**





**Jetties**

1/2 TO 1 TON ARMOR STONE PLACED & ROUGHLY CHINKED. CHINKING STONES SHALL BE 100 TO 300 LBS. CHINKING SHALL BE CARRIED OUT AFTER PLACEMENT OF ARMOR STONE IS COMPLETED & ONLY TO FILL THE VOIDS SMALLER THAN ARMOR STONE SIZE.

TOP ELEVATIONS VARIES WITH TOP OF BANK.

EXISTING GROUND

END OF FILTER CLOTH

BEACH LEVEL VARIES

-2.0' MSL

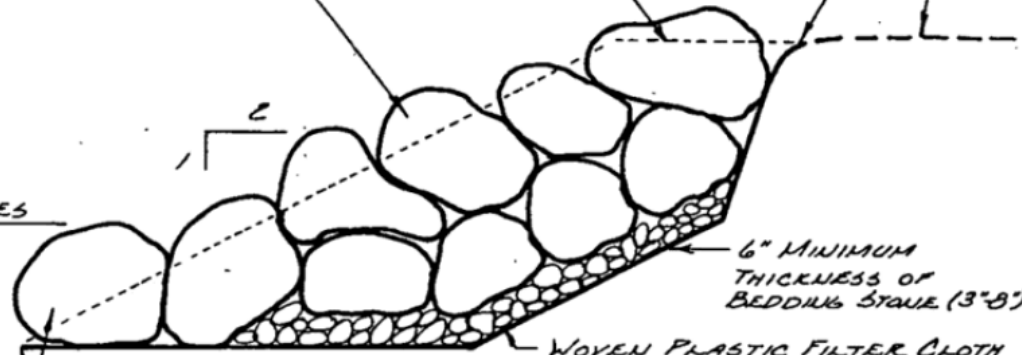
OR 10' INTO EXISTING MARSH MAT, WHICHEVER IS HIGHER

END OF FILTER CLOTH

6" MINIMUM THICKNESS OF BEDDING STONE (3" Ø)

WOVEN PLASTIC FILTER CLOTH NOT TO EXTEND BEYOND TOE OR TOP OF REVETMENT

CONTRACTOR TO SELECTIVELY PLACE LARGER STONES AT THE TOE OF THE REVETMENT WITH THE REMAINDER PLACED IN A WELL GRADED DISTRIBUTION TO THE TOP OF THE REVETMENT.



# Revetment



**Seawall**



The following information is required as part of the Permit application:

- Plans for the proposed structure that have been signed and sealed by a Professional Engineer licensed in the State of Delaware.
- An analysis which considers alternative methods of property protection from wave or storm damage, and their impact on the beach system. Alternatives may include: taking no action, removing portions of the existing building, or raising the building above anticipated flood and wave heights. The analysis should also address the possible effects the structure will have on beach erosion, the potential damage to adjacent properties due to wave reflection during storms.
- If a bulkhead is proposed plans for construction of a revetment in front of the bulkhead must be submitted. The revetment is required to mitigate the potential for scour and additional erosion immediately in front of the bulkhead.

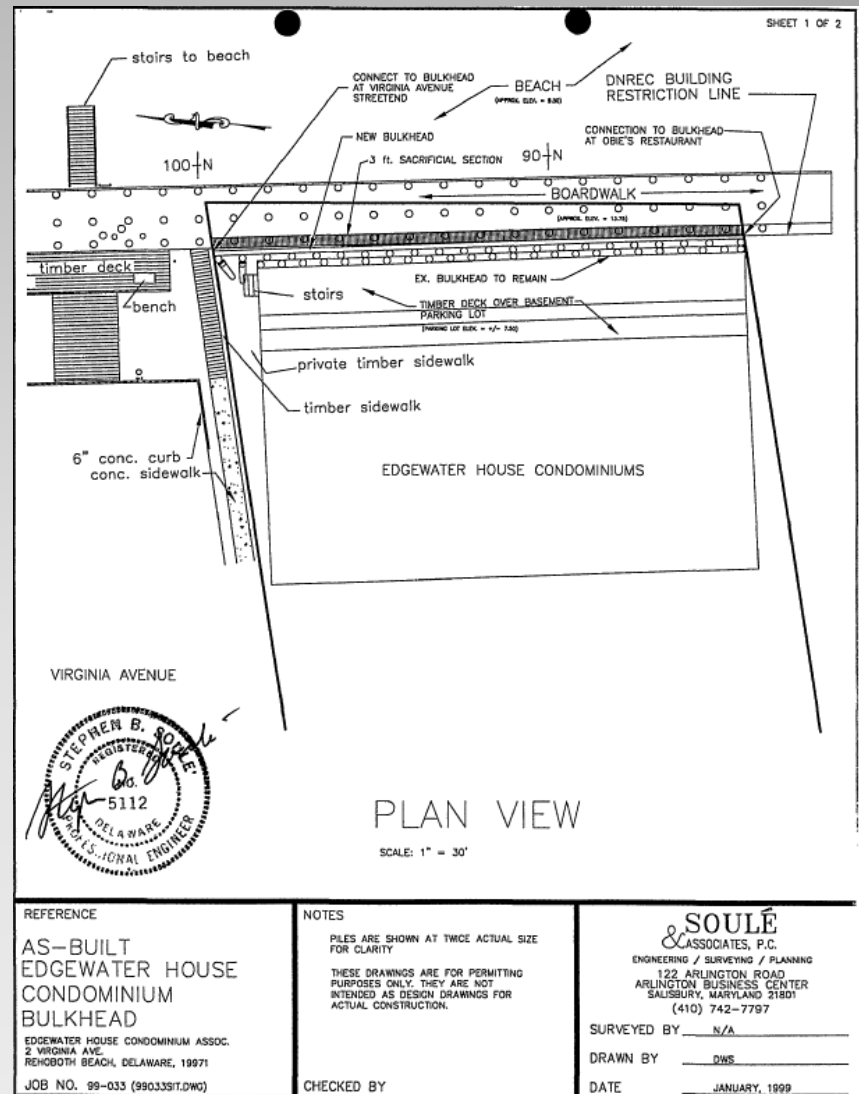
- 11 approvals for new revetments (2-3 of the approvals covered every oceanfront lot in South Bethany between them)
- 1 approval to repair an existing revetment
- 1 approvals was given for new groin field in Cape Shores, but was never constructed
- 6 approvals were given to repair groins
- Naval Jetty project in Cape Henlopen (Herring Point) was conducted, but did not require approval from this office

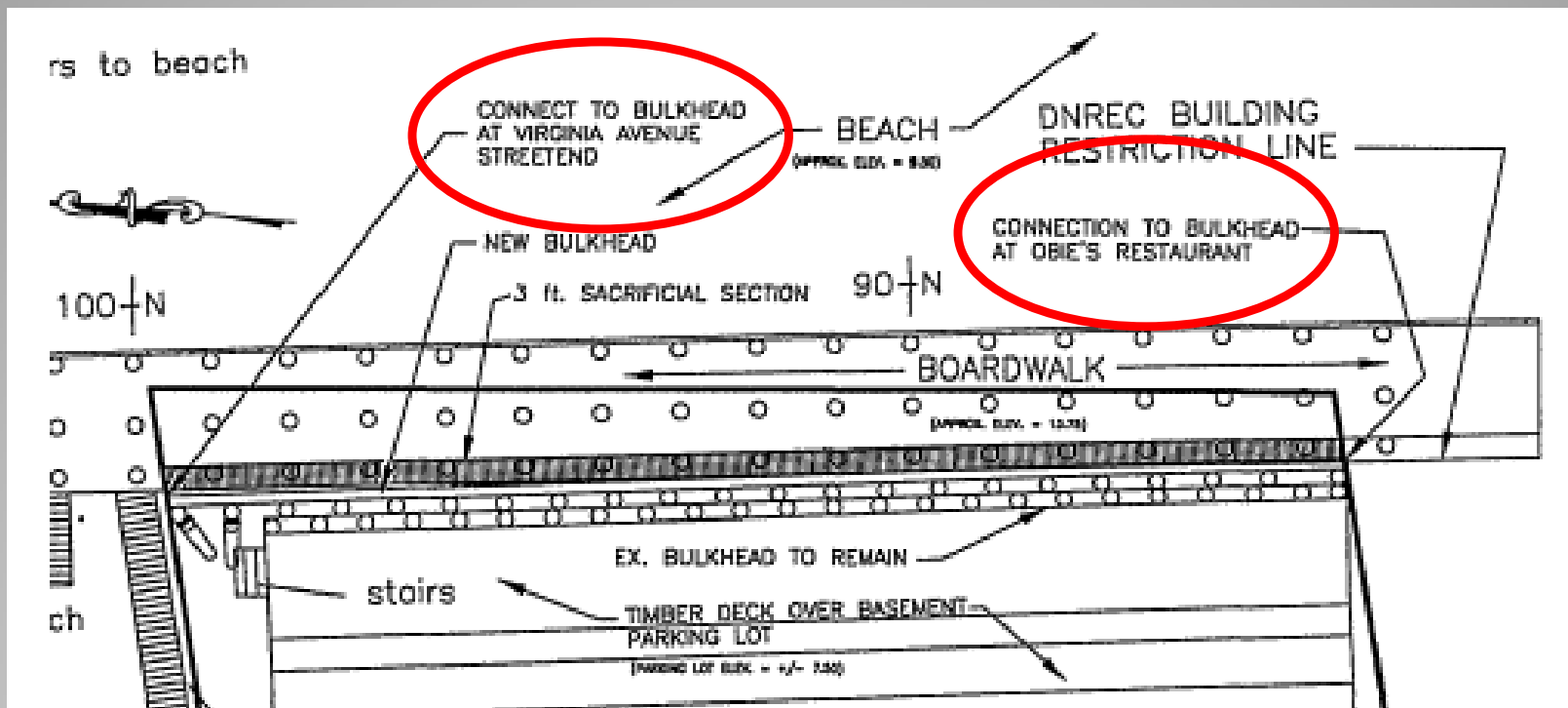


- 40 approvals have been given for new bulkheads
- 21 approvals were given to repair or modify existing bulkheads
- 1 approval was given for a new Jetty
- 1 approval was given to extend an existing Jetty

# Bulkhead at Edgewater House in Rehoboth Beach

Approved in 1999





Prior to construction of bulkhead the Edgewater House was vulnerable during storms because there were bulkheads protecting the immediately adjacent areas.

**Questions?**